

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
13 October 2005 (13.10.2005)

PCT

(10) International Publication Number  
**WO 2005/095026 A1**

(51) International Patent Classification<sup>7</sup>: **B22D 23/06**,  
21/04, 41/62, F27D 23/04, F27B 14/08

(21) International Application Number:  
PCT/AU2005/000457

(22) International Filing Date: 30 March 2005 (30.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
2004901679 30 March 2004 (30.03.2004) AU

(71) Applicant (for all designated States except US): **ADVANCED MAGNESIUM TECHNOLOGIES PTY LTD** [AU/AU]; Level 5, 30 Little Cribb Street, Milton, Queensland 4068 (AU).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **BAEKKEDAL**,

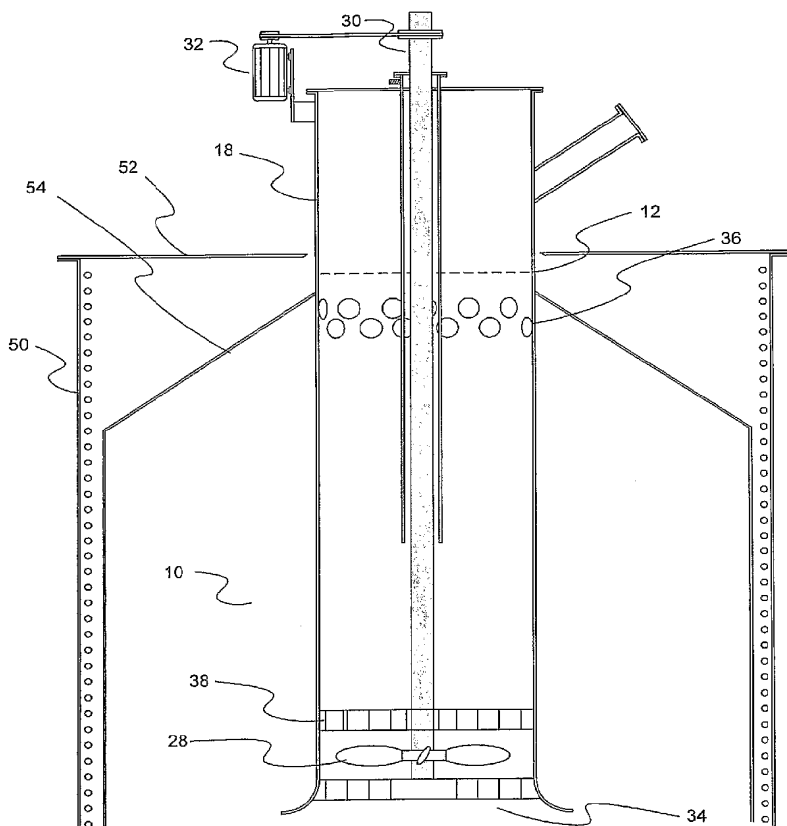
**Dag** [NO/NO]; N-2337 Tangen (NO). **BOLSTAD, Jan, August** [NO/NO]; Vesterasvej 3, N-3960 Stathelle (NO). **MCGLADE, Paul** [AU/AU]; GPO Box 668, Brisbane, Queensland 4001 (AU). **CALVI, John, Adrian** [AU/AU]; 13 Haigh Street, Bentleigh East, Melbourne, Victoria 3165 (AU).

(74) Agent: **GRIFFITH HACK**; 167 Eagle Street, Brisbane, Queensland 4000 (AU).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

[Continued on next page]

(54) Title: MELTING APPARATUS AND METHOD



(57) Abstract: A melting apparatus facilitates the melting of pieces of solid metal in a bath of molten metal (10). The melting apparatus comprises a device (18) having a lower portion (22), an upper portion (20), and a body portion (24) extending therebetween, introduction means for introducing the solid metal into the device (18) through the upper portion (20), flow inducing means (28) for inducing flow of molten metal through the device (18), and flow straightening means (38) for encouraging axial flow of molten metal through the device (18). The body portion (24) is formed with a plurality of apertures (36) therein and the device (18) is arranged, in use, with the lower portion (22) and the plurality of apertures (36) positioned within the bath (10) and the upper portion (20) positioned above the upper surface (12) of the molten metal bath (10).

WO 2005/095026 A1



**(84) Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**Published:**

— *with international search report*